DATA
INVENTOR(S): IN-KYU PARK ET AL
ATTORNEY DOCKET No.: 030681-457 SHEET 1 OF 14

FIG. 1

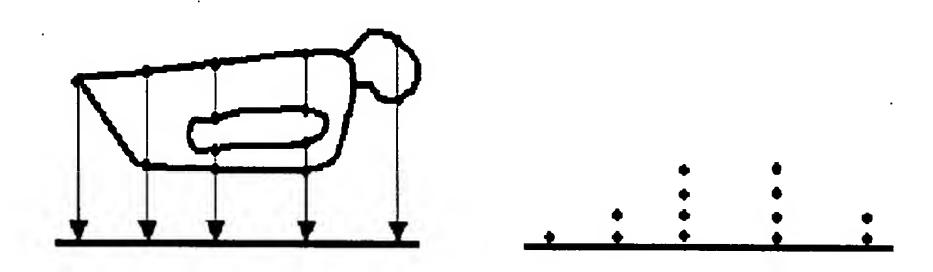
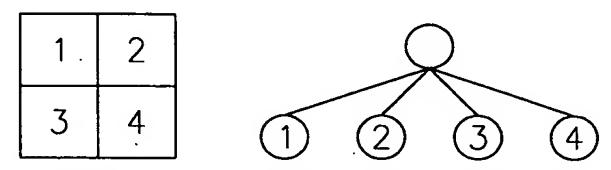


FIG. 2

PointTexture { field SFInt32 width 512 field SFInt32 height 512 MFInt32/ field depth MFColon color field field SFInt32 depthNbBits to be compressed

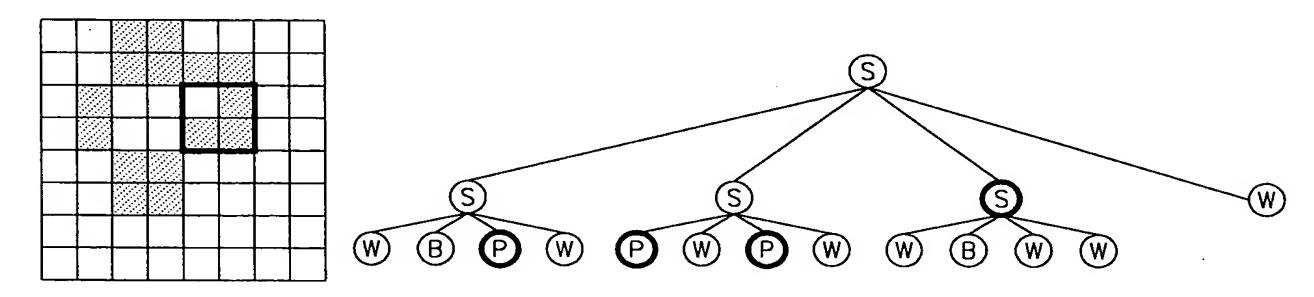
INVENTOR(S): IN-KYU PARK ET AL ATTORNEY DOCKET No.: 030681-457 SHEET 2 OF 14

FIG. 3A



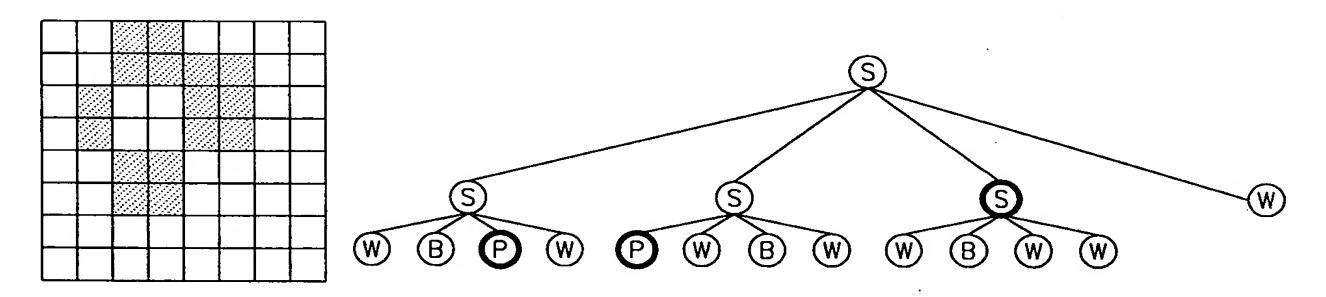
PARENT-CHILDREN RELATIONSHIP

FIG. 3B



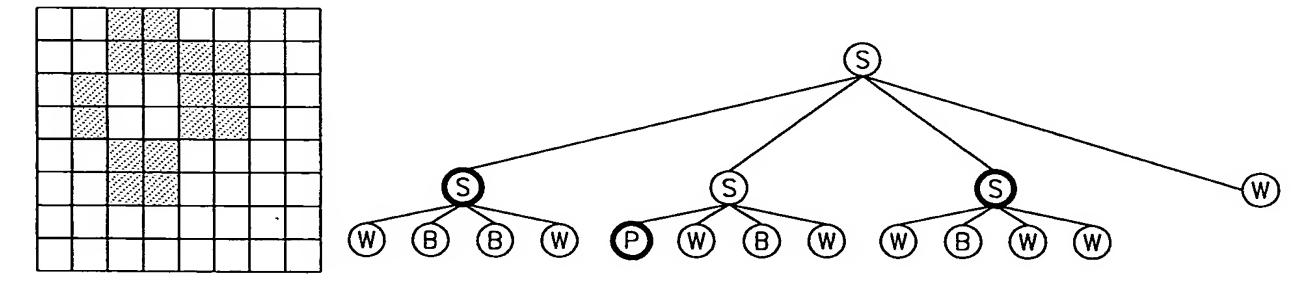
ORIGINAL MODEL AND ITS CORRESPONDING TREE

FIG. 3C



APPROXIMATED MODEL AND MERGED TREE

FIG. 3D



APPROXIMATED MODEL AND MERGED TREE

INVENTOR(S): IN-KYU PARK ET AL ATTORNEY DOCKET No.: 030681-457 SHEET 3 OF 14

FIG. 4

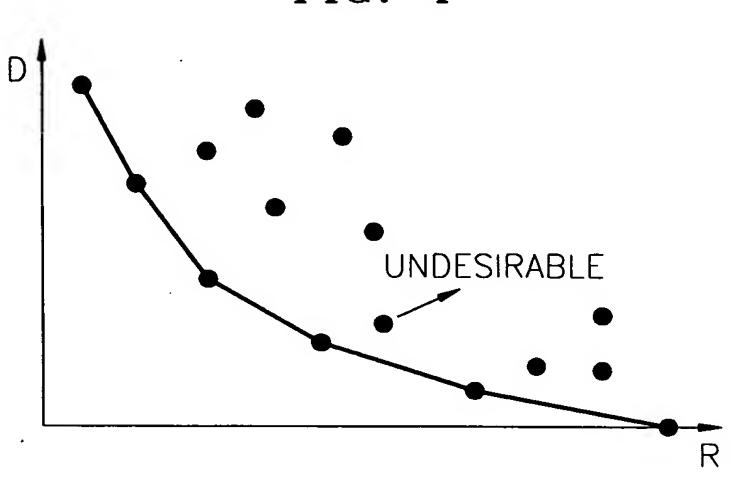


FIG. 5

Continue flag	Position	SOP("S" or "P")	DIB (Detailed Information Bits)
<u> </u>			

FIG. 6

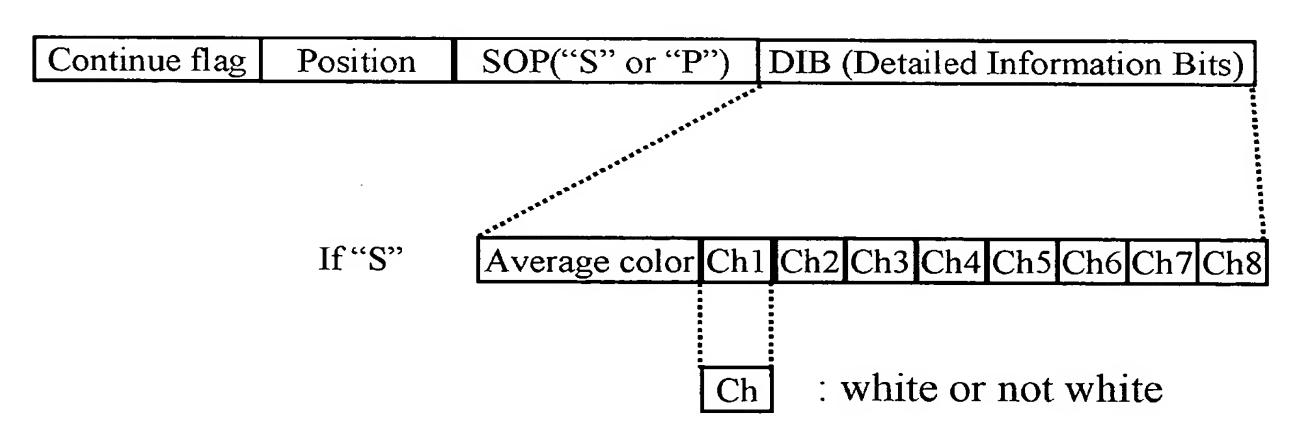
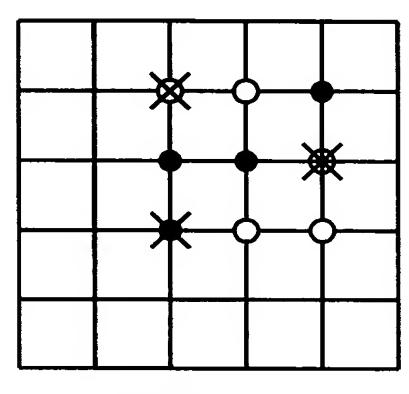


FIG. 7

Continue flag	Continue flag Position S		DIB (Detailed Information Bits)
		If "P"	PPM bits + DPCM color bits

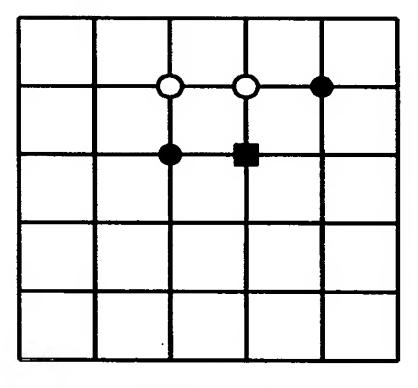
APPLN. FILING DATE: DECEMBER 5, 2003
TITLE: METHOD AND APPARATUS FOR ENCODING AND DECODING THREE-DIMENSIONAL OBJECT DATA
INVENTOR(s): IN-KYU PARK ET AL
ATTORNEY DOCKET No.: 030681-457 SHEET 4 OF 14

FIG. 8A



DEPTH=k-1

FIG. 8B



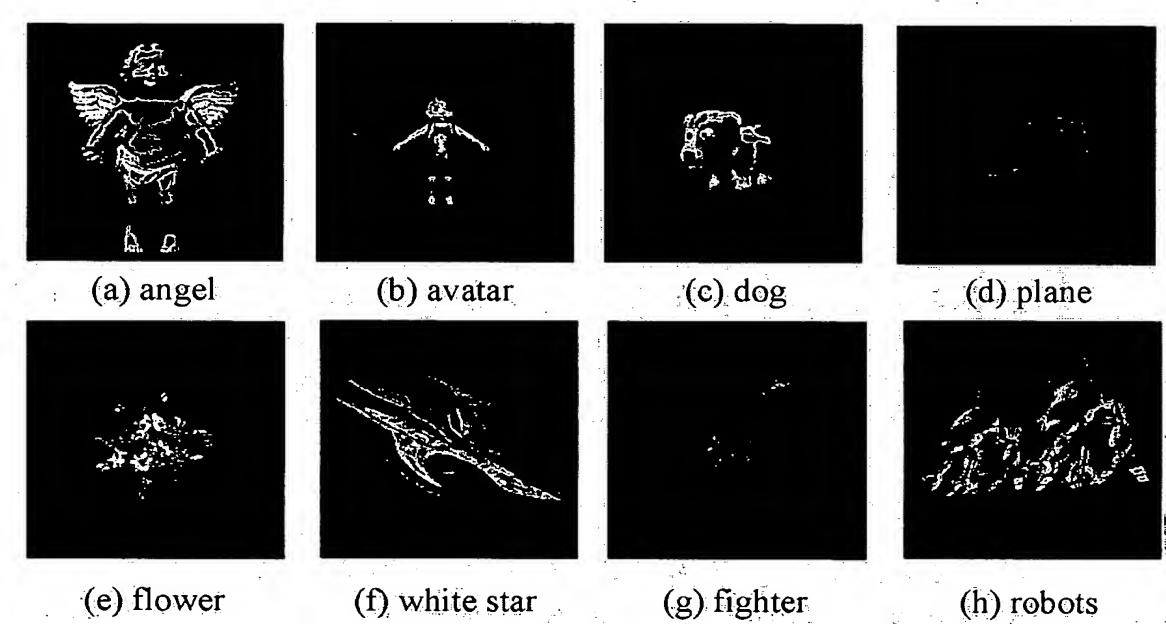
DEPTH=k

DATA

Inventor(s): In-KYU PARK ET AL ATTORNEY DOCKET No.: 030681-457 SHEET 5 OF 14

FIG. 9

(a)~(e) resolution: 256x256x256 (f)~(h) resolution: 512x512x512



INVENTOR(S): IN-KYU PARK ET AL ATTORNEY DOCKET No.: 030681-457 SHEET 6 OF 14

FIG. 10A

PRESENT INVENTION COMPARED WITH ORIGINAL BINARY DATA

	DEPTH			COLOR			TOTAL		
	Р	0	R	Р	0	R	Р	. О	R
Angel	34,893	306,218	0.11	238,748	722,046	0.33	27:3,641	1,028,264:	0.27
Avatar	6,396	87,184	0.07	35,813	64,944	0.55	42,209	152,128	0.28
Dog	11,501	111,262	0.10	64,312	137,178	0.47	75,813	248,440	0.31
Plane	5,254	96,946	0.05	51,256	94,230	0.54	56,510	191,176	0.30
Flower	17,804	98,469	0.18	65,016	98,799	0.66	82,820	197,268	0.42
WhiteStar	75,937	1,061,676	0.07	441,442	806,082	0.55	517,379	1,867,758	0.28
Fighter	38,108	906,308	0.04	275,853	573,030	0.48	313,961	1,479,338	0.21
Robots	105,458	1,285,188	0.08	669,236	1,141,350	0.59	774,694	2,426,538	0.32

FIG. 10B

PRESENT INVENTION COMPARED WITH A COMMERCIAL TOOL (WinZip)

	DEPTH			COLOR			TOTAL		
	Р	W	R	Р	W	R	Р	W	R
Angel	34,893	150,853	0.23	238,748	402,118	0.59	273,641	552,971	0.49
Avatar	6,396	14,407	0.44	35,813	46,475	0.77	42,209	60,882	0.69
Dog	11,501	34,256	0.34	64,312	112,734	0.57	75,813	146,990	0.52
Plane	5,254	9,771	0.54	51,256	47,245	1.08	56,510	57,016	0.99
Flower	17,804	30,243	0.59	65,016	80,721	0.81	82,820	110,964	0.75
WhiteStar	75,937	250,174	0.30	441,442	725,630	0.61	517,379	975,804	0.53
Fighter	38,108	173,124	0.22	275,853	414,241	0.67	313,961	587,365	0.53
Robots	105,458	330,815	0.32	669,236	939,136	0.71	774,694	1,269,951	0.61

DATA
INVENTOR(S): IN-KYLL PARK ET AL

3

INVENTOR(S): IN-KYU PARK ET AL ATTORNEY DOCKET No.: 030681-457 SHEET 7 OF 14

FIG. 11

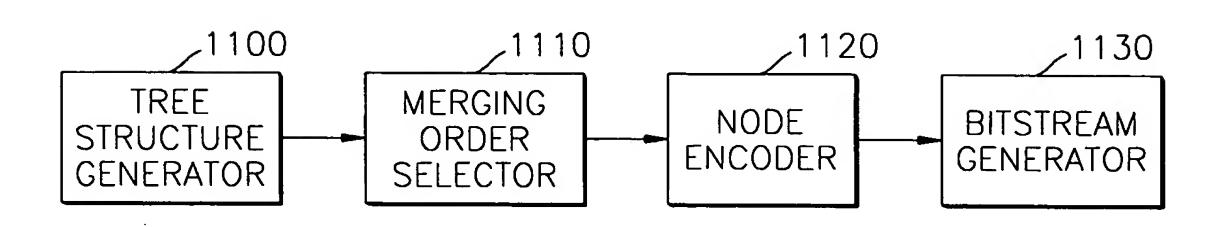
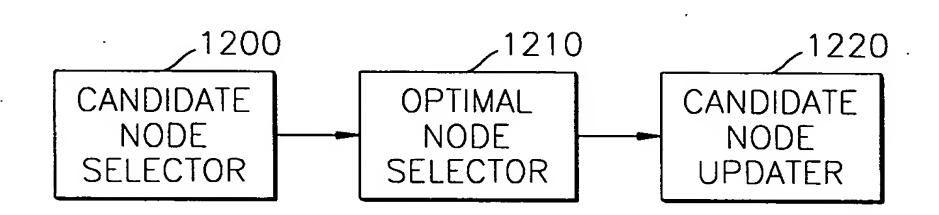


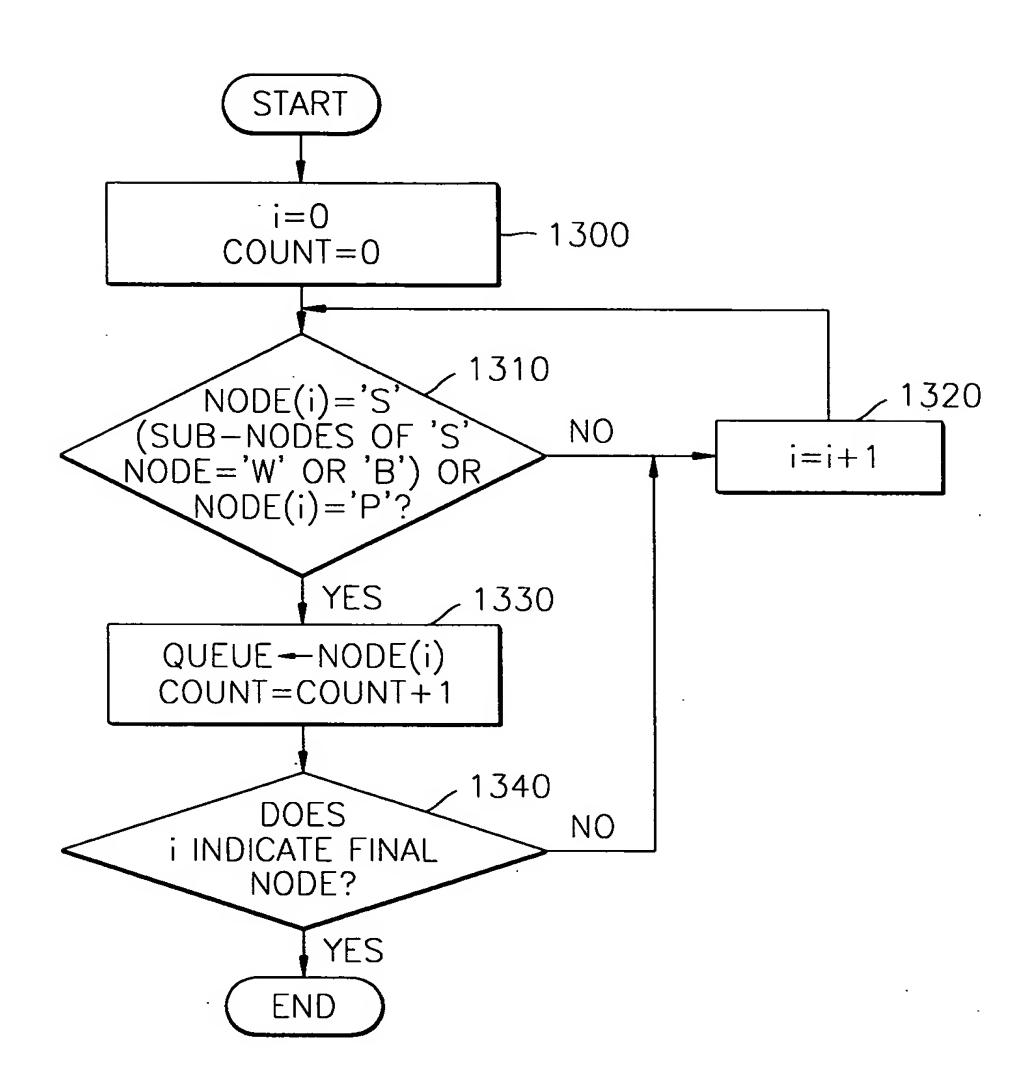
FIG. 12



APPLN. FILING DATE: DECEMBER 5, 2003
TITLE: METHOD AND APPARATUS FOR ENCODING AND DECODING THREE-DIMENSIONAL OBJECT DATA

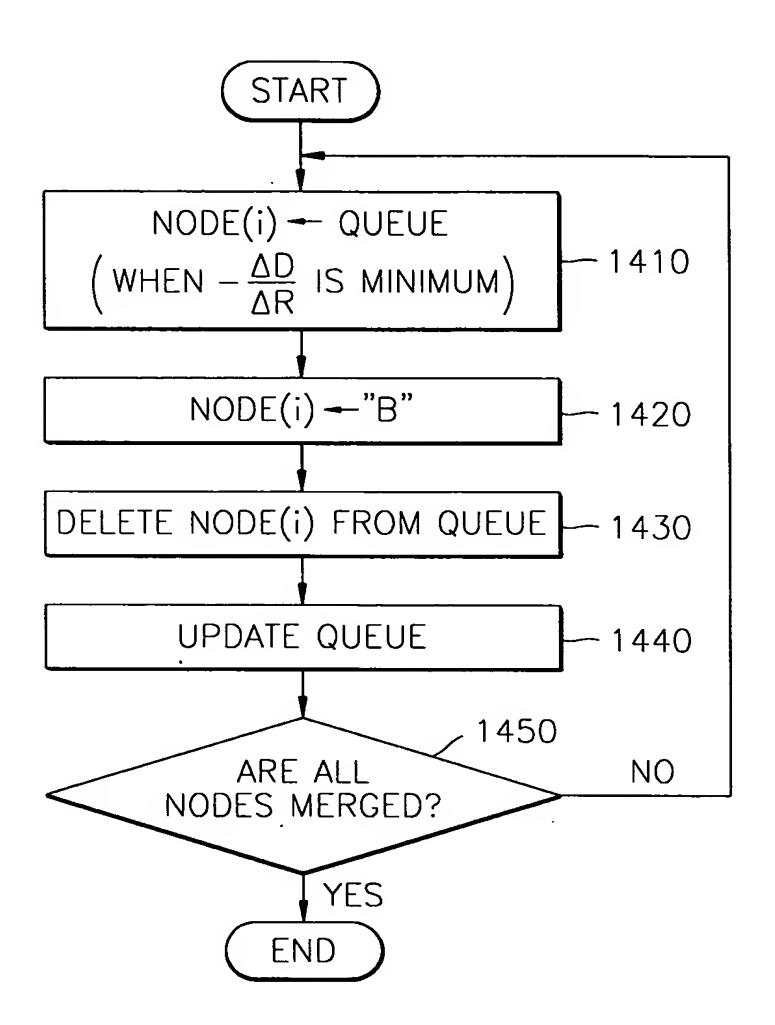
INVENTOR(S): IN-KYU PARK ET AL ATTORNEY DOCKET No.: 030681-457 SHEET 8 OF 14

FIG. 13



INVENTOR(S): IN-KYU PARK ET AL ATTORNEY DOCKET No.: 030681-457 SHEET 9 OF 14

FIG. 14



APPLN. FILING DATE: DECEMBER 5, 2003
TITLE: METHOD AND APPARATUS FOR ENCODING AND DECODING THREE-DIMENSIONAL OBJECT DATA
INVENTOR(S): IN-KYLL PARK ET AL

INVENTOR(S): IN-KYU PARK ET AL ATTORNEY DOCKET No.: 030681-457 SHEET 10 OF 14

FIG. 15

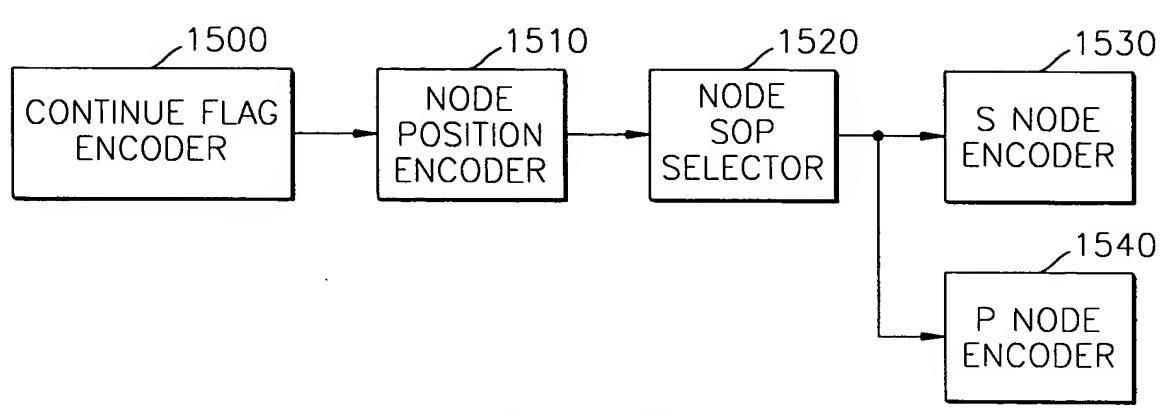
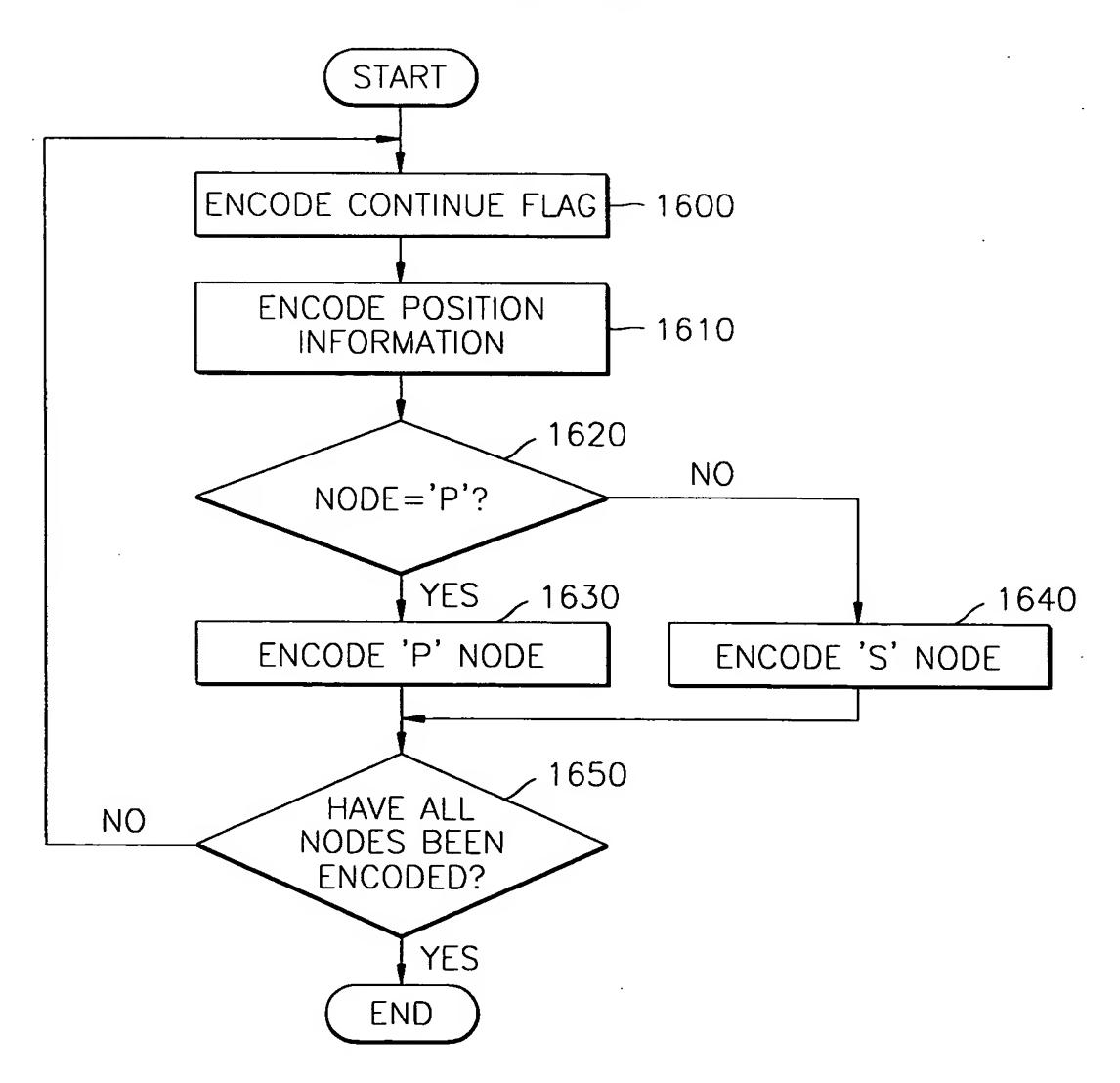


FIG. 16



APPLN. FILING DATE: DECEMBER 5, 2003
TITLE: METHOD AND APPARATUS FOR ENCODING AND DECODING THREE-DIMENSIONAL OBJECT DATA

INVENTOR(S): IN-KYU PARK ET AL ATTORNEY DOCKET No.: 030681-457 SHEET 11 OF 14

FIG. 17

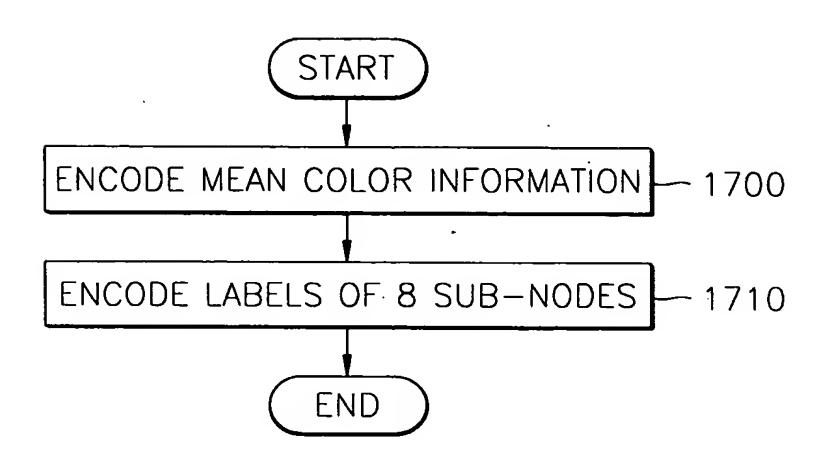
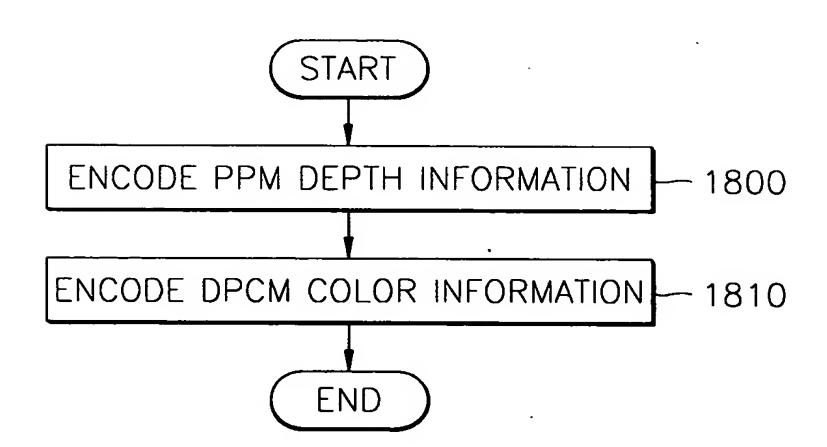


FIG. 18



INVENTOR(S): IN-KYU PARK ET AL ATTORNEY DOCKET No.: 030681-457 SHEET 12 OF 14

FIG. 19

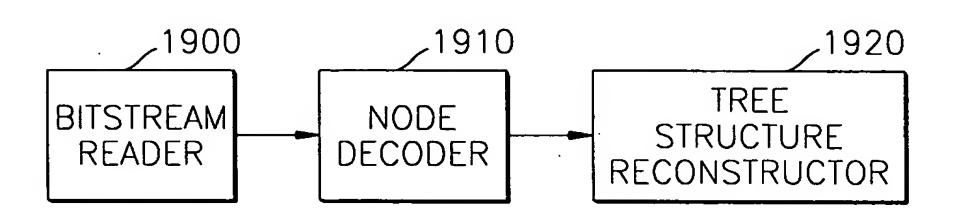
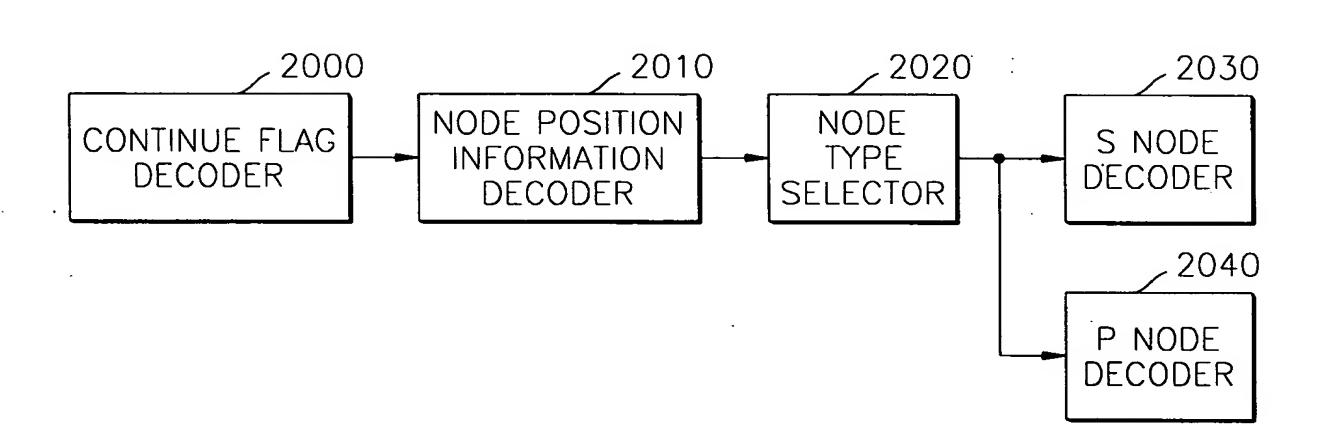
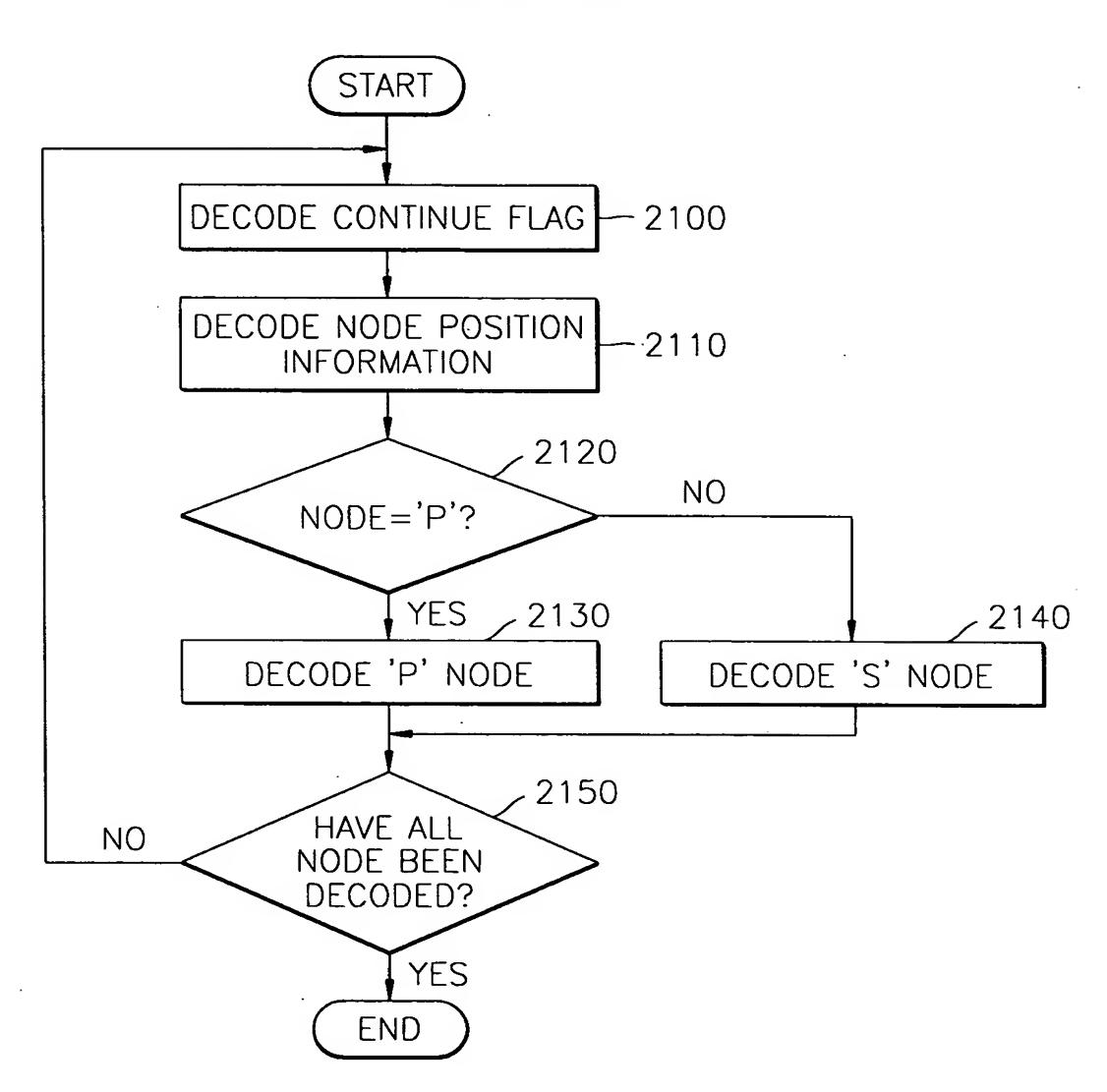


FIG. 20



INVENTOR(S): IN-KYU PARK ET AL ATTORNEY DOCKET No.: 030681-457 SHEET 13 OF 14

FIG. 21



APPLN. FILING DATE: DECEMBER 5, 2003
TITLE: METHOD AND APPARATUS FOR ENCODING
AND DECODING THREE-DIMENSIONAL OBJECT
DATA
INVENTOR(S): IN-KYU PARK ET AL
ATTORNEY DOCKET No.: 030681-457 SHEET 14 OF 14

FIG. 22

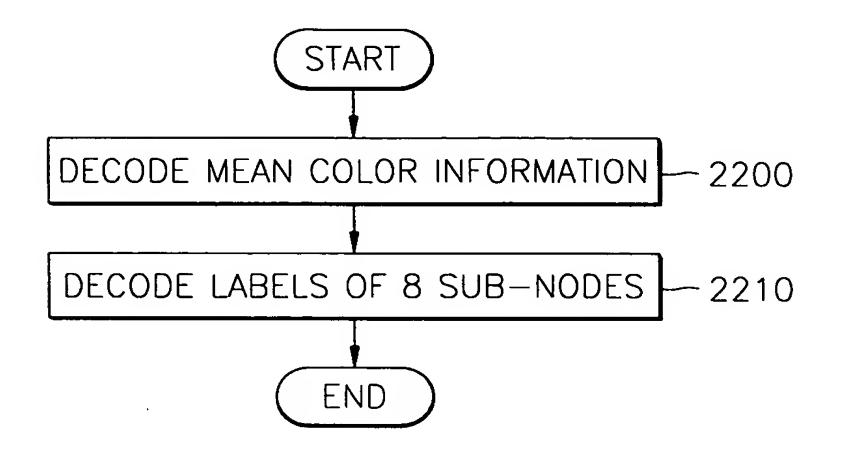


FIG. 23

